Final Notes January 19, 1999

IMPLEMENTATION TEAM MEETING NOTES

December 10, 1998, 9:00 a.m.-4 p.m.

NATIONAL MARINE FISHERIES SERVICE OFFICES
PORTLAND, OREGON

I. Greetings and Introductions.

The December 10, 1998 meeting of the Implementation Team, held at the National Marine Fisheries Service's offices in Portland, Oregon, was chaired by Brian Brown of NMFS and facilitated by Donna Silverberg. The agenda for the December 10 meeting and a list of attendees are attached as Enclosures A and B.

The following is a distillation (not a verbatim transcript) of items discussed at the meeting, together with actions taken on those items. Please note that some enclosures referenced in the body of the text may be too lengthy to attach; all enclosures referenced are available upon request from NMFS's Kathy Ceballos at 503/230-5420 or via email at kathy.ceballos@noaa.gov.

I. Introductions and Review of Agenda.

Brown welcomed everyone to the meeting, led a round of introductions and a review of the agenda.

II. Updates.

a. In-Season Management. Dan Daley reported that BPA has begun to implement the agreement to hold flows steady below Bonneville Dam for fall chinook and chum salmon spawning; the operation began on November 4. To date, we've been able to maintain Bonneville discharge above 125 Kcfs, he said. According to the agreement, any Bonneville outflow above 128 Kcfs will be decremental to the power draft, Daley explained; Bonneville outflow has been maintained at between 125 Kcfs and 128 Kcfs for all but four days since November 4, which translates into an accumulation of about 26 Ksfd, or 0.6 feet at Grand Coulee, which will be decremental to the 25-foot power draft. Even on those days, he added, it was possible to reverse load-factor so that daytime flows did not exceed 128 Kcfs. The end-of-November elevation at Grand Coulee was 1281.15 feet; the thinking at this point is that if the weather continues to hold up, we will be able to continue the Bonneville operation, Daley said. However, forecasters are predicting that the weather is going to get considerably colder, which may mean an increased draft of Grand Coulee.

With the 25-foot draft between November 30 and January 31, said Brown, does that mean the lowest possible end-of-January elevation at Grand Coulee, absent some other flood control requirement, is 1256 feet? Actually, we're probably looking at about 1260 feet on January 31,

Daley replied.

b. Integrated Scientific Advisory Board (ISAB). No report on the ISAB's activities was presented at today's meeting.

c. Dissolved Gas Team (DGT)/Transboundary Gas Group (TGG) Update. Jim Ruff of the Council staff said that, in his capacity as co-chair of the Systemwide TDG Abatement work group, he is waiting for work products from the various Transboundary work groups, in the form of draft study plan sections on geographic scope, monitoring and information sharing, biological effects and research, modeling, and operational/structural abatement. Ruff distributed a memo, dated November 30, titled "Background Information and Outline of Study plan for Transboundary Gas Group." This memo is attached as Enclosure C; please consult this document for further details on current TGG activities.

Ruff said these draft study plan elements are due to the steering committee by the end of January, at which time they will be compiled and edited into a single document for review by the full TGG at its next scheduled meeting, on February 18 in Seattle. He added that, once the study plan has been reviewed by the TGG, it will be submitted to the IT for review; at that time, the representatives of the various entities which have been participating in the TGG process to date will be soliciting their management for funding and/or resources to get the TGG study plan implemented – otherwise, it's never going to get off the ground, Ruff said.

He added that the only agency that has committed funding to the TGG effort so far is the U.S. Environmental Protection agency – no other entity has stepped up to the table, he said. This is just a heads-up that we will be coming to you with our hands out following the TGG's February meeting, said Ruff – we think this systemwide approach to dissolved gas abatement is an important effort, and so does the Council.

So in February, you're planning to present your proposed product, schedule and cost - essentially, your plan of study? asked Doug Arndt of the Corps. That's correct, Ruff replied. You've also indicated that there are some entities in the region which are not currently participating in the Transboundary Gas Group, Arndt said, notably some of the states – without their participation aren't you likely to have trouble gaining full acceptance for your product? We will make the product available to everyone, said Ruff, but at this time, I can't tell you how people will react to it. We're trying to put together the best product we can, and address everyone's input and concerns.

In response to a question from Brown, Ruff said the TGG effort is fully coordinated with the Corps' Gas Abatement Program; the Corps has been at every one of our meetings, he said, and we're focusing the TGG's efforts on areas the Corps isn't looking at, such as the Upper Columbia. What about the TDG research plan submitted by CBFWA to the Council last week, asked Jim Nielsen of WDFW – how will that interface with the Transboundary Gas Group's effort? I hope that it will interface with the CBFWA plan, Ruff replied – I need to touch base with the biological effects and research work group to make sure that happens.

d. System Configuration Team (SCT). No report on the SCT's recent activities was presented at today's meeting.

e. Decision Process Coordinating Group (DPCG). No DPCG update was presented at today's

meeting.

III. Multi-Species Framework Update.

NMFS' John Palensky explained that the Multi-Species Framework is a process within which various regional stakeholders – the Council, Tribes, state and federal agencies – are attempting to develop a shared vision and regionally-supported set of objectives for the Columbia River. The Council's interest in this exercise is related to their need to amend the Columbia River Basin Fish and Wildlife Program some time in 1999, Palensky said; NMFS is interested in the Framework group's work products because of their potential usefulness to the 1999 Decision.

The Framework group held a workshop on November 17-19, attended by upwards of 250 people representing entities throughout the region -- industrial groups, state and federal agencies, tribes and environmental groups, he continued. The reviews on that workshop were, admittedly, mixed; some felt that it provided an opportunity for valuable heart-to-heart exchanges between those various interest groups, while others were disappointed because of changes made to the final day's agenda b, the facilitator, Palensky said. The proceedings of the workshop are available from the Framework group's Internet web site, as are other documents relating to their efforts.

There were 27 "concept papers" submitted to the Framework process prior to the workshop, Palensky continued – papers outlining various groups' vision of how the Columbia River system should be managed, and the various objectives they would like to see for that management. As you might expect, he said, those concept papers ran the gamut from visions that were almost entirely ecologically-driven, to those that were almost entirely economically- driven. The dilemma, of course, is how to coalesce those 27 concept papers into a reasonable number that can then be evaluated – probably down to somewhere in the neighborhood of four to five alternative visions, said Palensky.

Two groups have been established to do the actual analysis on these concept papers, he continued – an ecological work group, consisting of Council contractors, and a socioeconomic and cultural work group. The next step, as I mentioned, is for these groups to reduce the 27 concept papers down to four of five, spanning the full range of alternative visions for the system, Palensky explained.

Palensky distributed a handout, which he said was an attempt by Chip McConnaha, with the support of the ecological workgroup, to establish an array of groupings under which the 27 concept papers might be fit into the Regional Multi-Species Planning Process. These groupings encompass a range from Alternative 1 ("Achieve a self-sustaining ecosystem characterized by regional cold-water fish species and associated wildlife species capable of supporting controlled harvest of most fish and wildlife populations, while maintaining regional economic viability and social patterns, accepting local economic and social adaptation") to Alternative 5 ("Achieve a self-sustaining economically-driven ecosystem that supports the default fish and wildlife community, maximizing regional and local economic viability and social radiation"), as well as a "status quo" alternative. This handout, dated November 30, is attached as Enclosure D. Palensky emphasized that these categories are not the alternatives the Framework group will be considering – they are simply groupings that are intended as a starting-point for further discussion.

The next step will be for the Framework Process work groups to talk with those who submitted the 27 original concept papers, to begin to see whether they can align themselves with one of these broad groupings, Palensky said. After that, the work groups will begin to flesh out each of those concept papers or visions into something that will lend itself to further ecological and socioeconomic analysis.

Palensky touched on some of the issues that have arisen in the course of the Framework group's work to date, including the starting-point for the analysis and the membership of the ecological work group; these issues will hopefully be resolved at a Framework group management meeting scheduled for December 14, he said. In terms of schedule, the Framework group is targeting July 1999 for the completion of this work, including the full articulation and ecological and socioeconomic analysis of each vision for the Columbia River system, plus internal and external review and finalization. In short, it's a herculean task, and an extremely tight schedule, Palensky said.

So by July, this group hopes to articulate a single, unified vision for the future of the Columbia River system, or a series of visions that encompass everybody's point of view? Daley asked. That's one of the key questions that will be taken up and, hopefully, resolved, at the December 14 management meeting, Palensky replied -- there are those who want to see us develop that common vision, and others who feel that cannot be achieved.

The July date seems extremely ambitious, said Doug Arndt – what's driving that? A couple of things, Palensky replied – one is the Council's amendment process, the other is the 1999 Decision. Actually, the last I've heard on the Council amendment process is that it will take place in late 1999, said Jim Ruff.

IV. Summary of the Temperature Workshop.

EPA's Mary Lou Soscia provided a brief overview of the EPA-sponsored Temperature Workshop, held December 3-4 in Portland. The purpose of the workshop, as many of you are aware, was to focus attention on water temperature problems in the Columbia River Basin, to share information, and to further the understanding of water temperature issues in the Columbia/Snake mainstems, she explained.

EPA is fundamentally concerned about water temperature as a key factor in overall ecosystem health, Soscia said; basically, if we're going to talk seriously about the restoration of the Snake and Columbia ecosystems, we need to focus attention on the temperature issue. One of the key areas of discussion at the workshop was the model EPA has been developing over the past year, to try to understand the impacts of the tributaries and the dams on water temperature in the mainstem, she said; there was a lengthy presentation on the model. At this point, there are preliminary modeling results only, she continued; we will be conducting peer review on the model during January and February, with final model results due out in early March. In terms of preliminary findings, however, said Soscia, they are that the dams have the most significant impact on temperature, a much greater impact than the tributaries.

There were a number of other presentations at the workshop, including some recent temperature-related biological work, an update on the work the states are doing in the tributaries, presentations from FERC and Idaho Power on the Hells Canyon Complex relicensing, on the

Corps' bioproductivity model, and on the implications of global warming on climate changes in the Columbia Basin, Soscia continued. There was also a very interesting presentation from British Columbia on Fraser River temperature issues, she said.

We also had a session in which we talked about what happened last summer at McNary Dam, and how we might improve the decision-making process in the future, Soscia said; at the end of that session, we agreed to continue our discussion of this issue, and to convene a group after the first of the year to begin looking at the McNary decision process, with the goal of developing a protocol for use if a similar situation arises in the future, for inclusion in the Water Management Plan.

In conclusion, at the workshop, I think we gained some recognition of the complexity of the temperature issue, said Soscia; in the context of the ecosystem as a whole, it's a tough issue to get a handle on. The workshop was a success in terms of getting the issue out in the open, sharing information and figuring out how to move forward on water temperature issues, she said. Soscia added that a workshop summary, including notes of the discussion and abstracts of all of the work presented will be available in January or February.

In response to a question from Arndt, Soscia said anyone with an interest in temperature issues is invited to participate in the review of the EPA temperature model. It was agreed that it would be useful to place a briefing on the final results from the water temperature model on the March IT meeting agenda, with updates provided at the January and February IT meetings.

V. Update on A-Fish Appendix Schedule.

NMFS' Bill Hevlin updated the IT on the current schedule for the completion of the Anadromous Fish Appendix, one of many components of the Lower Snake EIS. He said NMFS plans to distribute the A-Fish Appendix to the IT on January 15; essentially, this appendix will take PATH's alternatives analysis and put it into NEPA format for use in the EIS process.

In response to a question from Arndt, it was observed that, in addition to the PATH output, the A-Fish Appendix will incorporate some new PIT-tag information as well as construction impacts. Construction impacts will also be addressed in the Coordination Act Report. NMFS has agreed that we will take the PATH output, put it together with appropriate additional information, and develop an appendix to the draft Environmental Impact Statement that essentially implements the analyses that have been done through PATH, Brown explained. We intend to make sure that the finished NMFS product goes back to the PATH group, Brown said, because we need to ensure first that we have characterized the PATH results accurately and, second, that the appendix is appropriately balanced and unbiased.

Under your proposed schedule, when will the Corps actually get its hands on the Anadromous Fish Appendix, so that we can begin to incorporate it into the Lower Snake EIS? Arndt asked. NMFS will be prepared to give you that document by mid-January, said Brown, with the caveat that there is an expectation, on the part of the PATH participants, that they will have an opportunity to review the draft appendix before the Corps does anything with it.

The reason I ask is that the Corps is on an extremely tight schedule to produce the Lower Snake EIS, said Arndt. Because of the slippages in both the PATH and A-Fish Appendix schedules, I

would say our ability to produce that EIS in 1999 is severely jeopardized, Arndt said. We need to look at what we can do, now, together, to see if we can recover from those slippages. Once the NMFS material is received, it will take some time to incorporate it into the body of the EIS; we don't have time to sit on it once it's received. Again, when will we get this material in useable form? asked Arndt. That's something the IT will need to decide, because it is a decision that will affect either the comfort level with the final product, or the schedule.

It sounds as though the earliest we will see the draft appendix is January 15, said Arndt. Further discussion yielded the observation, from Greg Graham, that the month's delay in the timing of the A-Fish Appendix reduces the probability that the Lower Snake EIS will be released for public review in April and finalized by December 1999; any additional delay will reduce that probability further. If the draft EIS attracts significant critical comment, or if it becomes necessary to extend the 60-day public review period, it will be all but impossible to finalize the document by December.

I would request that we not set aside three or four weeks for a separate PATH review of the A-Fish Appendix, said Arndt; rather, given the close involvement of NMFS personnel in the PATH process, I would request that the PATH review be folded into the ongoing work between now and January 15, with the intent of having a final product available by January 15. If the other participants in PATH agree that that would be an appropriate course of action, then I would be comfortable with that, said Brown – however, I wouldn't be comfortable with NMFS announcing that that's how it's going to be. We especially want to be sure that the additional information is appropriately incorporated into the A-Fish Appendix, and that no one in PATH feels that we're short-changing an alternative viewpoint.

Ultimately, it was decided to give the draft A-Fish Appendix to the Corps and PATH simultaneously on January 15, with the commitment that, if PATH identifies significant areas of concern within the Appendix, NMFS will make time for resolution of these issues. In the interim, NMFS will provide any reviewable pieces of the Appendix to PATH, so that the PATH review process can begin as soon as possible. The Corps will begin to incorporate the draft A-Fish Appendix into the Lower Snake EIS as soon as the document is received.

Without suggesting in any way that we will be unable to meet the December 1999 decision deadline, said Daley, it sounds to me as though we ought to start letting the region know what the Corps, in particular, is up against, in terms of meeting that deadline, and that there is a risk that, at any point, the schedule could begin to slide. If that happens, we may not wind up with a final product in December, he said. I think it would be in all our interests to start getting that message out now, rather than waiting until November.

In response to a question from Brown, Greg Graham said that, given this one-month slip in the delivery of the A-Fish Appendix, it will be late May, at the earliest, rather than late April, before the draft EIS is available for public review.

VI. PATH Final Report for FY'98.

PATH coordinator Dave Marmorek provided an extensive overview of PATH's FY'98 final report, touching on PATH objectives, work accomplished in FY'98, a summary of PATH results to date and FY'99 work prioritization issues. He worked from a series of overheads (attached as

Enclosure E) and also distributed an executive summary of the PATH FY'98 Final Report (Enclosure F). Please see these documents for details of Marmorek's presentation, in particular, the "Summary of Overall Results for All Species" beginning on p. 7 of the Executive Summary (Enc. F).

VII. PATH Priorities for FY'99.

Marmorek also touched on FY'99 PATH priorities, working from a memo, dated December 7, outlining the priorities laid out during a recent meeting of the PATH planning group. This memo is attached as Enclosure G; please see this document for details. Essentially, although I don't expect you to answer this question today, we need some feedback from the IT as to what our FY'99 priorities should be, Marmorek said.

One question, said Arndt – the Corps owes a Phase I report on John Day drawdown to Congress next fall. I'm assuming that there will be an anadromous fish piece to that, he said; the Corps will be looking to NMFS to produce that, and I assume that NMFS will in turn look to PATH for assistance. Is that another task we need to put on PATH's plate? Arndt asked. Are you referring to John Day drawdown by itself, rather than in the context of Alternative B1? Marmorek asked. That's correct, Arndt replied. I don't think that would be a big deal, because we've already done John Day together with drawdown of the Snake River projects, said Marmorek. In response to a question, Arndt said the Corps will need to have this portion of the John Day report in its hands by June or July.

I should qualify my earlier statement by saying that looking at the benefits of John Day drawdown just for Snake River stocks would be one thing, but looking at the benefits to all stocks would entail a considerable amount of additional work, Marmorek said. And that's what we would need, said Arndt. If you're talking about all stocks, including the Mid-Columbia, there is no way, frankly, that PATH could meet a June deadline, Marmorek said. The Phase I report is due to Congress by October, so I'm assuming that we would need the biological portion of that analysis some time in the summer of 1999, said Arndt – I apologize for not bringing this to your attention sooner. You don't need to give me an answer today, he said – I just wanted you to be aware that it's probably going to be another task PATH will be asked to undertake.

I guess the question the IT needs to consider is, how important is the John Day work in comparison to the work PATH is doing on the Lower Snake Feasibility Study? Marmorek said. I think it's a task PATH will need to undertake, although, given the fact that the John Day report is a recon-level study, it won't need to include the same level of detail as the Lower Snake work, said Daley. Perhaps we could make it a high PATH priority for the third quarter of FY'99, Arndt suggested.

How do you want to proceed with this? Marmorek asked. There were a couple of items left hanging at the conclusion of the PATH planning group meeting, subject to the development of additional information, said Brown. The first was the degree to which experimental management might address some of the remaining uncertainties and differences of view about the amount of additional sensitivity needed for spring/summer chinook; the second was the question about the sensitivity analyses – what is the purpose of the feasibility analysis, and what an appropriate scope for that effort might be.

To answer the first question, said Marmorek, with regard to experimental management, we believe that having simpler passage models that can be run very quickly will make it much easier to look at a wider range of actions in habitat, hatchery and harvest. The Scientific Review Panel did recommend that this be done, Ruff observed. Daley expressed the concern that, based on the track record of the PATH effort to date, it may take longer than expected to develop these "simplified" models.

What the PATH planning group has been trying to establish is essentially what PATH's priorities should be, since it won't be possible to accomplish everything everyone would like PATH to do in FY'99, and specifically, what PATH's work priorities should be between now and March 1999, said Brown. I felt there was a fairly high level of agreement on at least some of those priorities, he said – for example, in the case of the Mid-Columbia stocks, there was agreement that it would be appropriate for a small group of PATH participants to work with the Mid-Columbia Coordinating Committee over the next few months to basically scope the analyses, a relatively minor commitment of PATH resources over the next three to six months. The goal would be to produce an overview of what kinds of analyses might be possible, for a subsequent discussion of where to go with those analyses, Brown explained.

The other area on which I thought there was general agreement was that there is a need for further analysis on Snake River fall chinook, subject to the outstanding question of the purpose and scope of the sensitivity analyses, Brown said. The area where the greatest disagreement seemed to lie was whether or not to continue the Snake River spring/summer chinook analyses, or whether we should consider those largely done, and move on to the development of experimental management options, Brown said. Some felt that, because the experimental analysis work will happen after the 1999 decision is made, it can wait, and we should focus our efforts on continued modeling analysis, so that we have the best possible information to support the 1999 decision. Other feel that we've already mined all that we can from the old data, and the next logical step is to use experimental management to reduce some of the uncertainty, Brown said.

Is it likely that going into experimental management options at this time will really enhance our ability to do the sensitivity analyses on hatcheries, habitat etc? Daley asked. Yes, because it will take less time to look at a wider range of options and combinations of those options, Marmorek replied. Are you saying, essentially, that you would prefer to explore the full range of management actions for all four Hs? he asked. Yes, but I'm not sure I'm convinced that should be a high priority for PATH right now, Daley replied. I guess what I'm saying, in the context of this discussion of PATH work priorities, is that I'm not sure PATH is the group that needs to identify those experimental management options.

Another potential approach would be to develop simpler models to run your sensitivity analyses, suggested BPA's Jim Geiselman. Through your sensitivity analyses, you could then identify the management actions that you may and may not want to explore further through experimental management. PATH participant Howard Schaller said that, while he agrees that experimental management could be used to look at some of the sensitivities associated with harvest and hatchery management actions, it will be difficult to try to look at other hypotheses. I think that, once you start to develop new hypotheses for incorporation in this analysis, you will have to go back to the weight-of-evidence process, because that's out of the realm of sensitivity analysis, Schaller said.

I guess my concern is that no one in this room, including the PATH participants, is going to actually define what the feasible range of experimental management options should be, said Daley. The question then becomes, should PATH spend a great deal of effort trying to define that, and couple it with sensitivity analyses, between now and March 1999, rather than taking a more conservative approach and concentrating its efforts on fall chinook, which is the highest priority right now, continue to look at spring/summer chinook, and do some sensitivity analysis as time allows? he said.

The discussion continued in this vein for some minutes. In response to a question from Reclamation's Ron McKown, Brown said that the SRP has said that, in their opinion, the value to be derived from additional modeling analyses of spring/summer chinook is limited; if the region wants to learn more about spring/summer chinook, an experimental management approach would be more fruitful. There are some around this table who disagree with that assessment, Brown said; they feel the SRP didn't have all of the information that is now available when it made that determination, and that further modeling of spring/summer chinook would be worthwhile, in terms of its contribution to the EIS for the 1999 decision.

Ultimately, there was general IT agreement that the fall chinook analysis should be the highest PATH priority.

Jim Yost of the Idaho Governor's office said that, at a previous IT meeting, there was a commitment that a hypothesis would be developed that had flow augmentation turned on and turned off. Idaho is not ready to support Alternative A6 as that hypothesis, Yost said; I would like to see some consideration of Alternative A2 or A3, or both, being used to turn flow augmentation from the Snake River on and off. Actually, I have a slightly different recollection, said Marmorek – what I recall was that we agreed that, for any action we looked at which would add flow augmentation from the Snake, we would also look at removing flow augmentation from the Snake. Alternative A6 was an action where we looked at adding more flow augmentation from the Snake, so we also looked at removing that flow, admittedly in a preliminary way, Marmorek said. However, I don't recall saying that we should look at zero flow augmentation for all of the other actions, or that we should also look at increased flow augmentation for all of the other actions.

I'm assuming, then, that Alternatives A1, A2, A2' and A3 have no additional flow out of the Snake, Yost said. Beyond those identified in the 1995 Biological Opinion, that's correct, Marmorek said. So the additional 1 MAF from Idaho will not be modeled by PATH? Yost asked. I think what Dave said was that A6 and A6' were given a cursory review, and the judgement was made that, based on that review, A6 and A6' were not likely to yield results that were significantly different from those for A1 and A2, Brown replied – therefore, putting them through the more rigorous modeling procedure was not justified at this time. Actually, I think some of the discussion to which Jim refers may have taken place at the Decision Process Coordinating Group, said Ed Sheets. One of the things we discussed was the fact that we needed to see results before we could decide what course to pursue. Some members of the group felt that, if the results showed that we were fairly close, but not meeting, the survival and recovery standards, it might make sense to do an analysis that would look at more things. If the results showed that there were alternatives that far exceeded the survival and recovery standard, said Sheets, we could then look at doing fewer things. At this point, I don't know whether PATH is far enough along on this modeling exercise to say which direction the results seem to be leading,

he said.

Some actions meet the standard, and some don't, Marmorek said. Whether we should analyze more options, or whether we should analyze the options we've already got more thoroughly is one of the prioritization questions we need to answer.

I agree with Ed – that's my recollection of the discussions that occurred as well, said Brown. If I may, said Ed Bowles of IDFG, I think that we may be missing the boat. What the State of Idaho would like to see is a direct assessment, through management actions modeling, of the impacts of flow augmentation, and the biological benefits it does and does not provide. The biological benefit of flow augmentation is a part of the management actions package that has not been looked at from a sensitivity aspect, Bowles said – it wasn't part of the sensitivity analysis. Alternative A6 was chosen as the vehicle for that analysis, but it probably wasn't a very appropriate choice, given the fact that it has little or no chance of being selected for implementation, said Bowles. From Id ho's perspective, there is still a need to look at the values of flow augmentation in more detail, either by modeling the key management actions with water on and off, or via a sensitivity analysis of the model's sensitivity to flow augmentation.

What I seem to be hearing is that we need to make the list of future PATH activities a little broader, because there is an analysis that is now being requested by the State of Idaho for spring/summer chinook sensitivity, said Brown. This is somewhat different from my recollection of the request associated with the additional 1 MAF analysis, he said; what I recall is that the IT was responding to a tribal concern that it would be inappropriate to limit the scope of alternatives to not include additional water. Idaho then responded by saying that, if we're going to add an alternative that includes additional flow augmentation from the Snake, then we also need to look at an alternative with zero flow augmentation, Brown said. What I'm hearing now is that Idaho wants to use the PATH alternatives analysis to try to evaluate the value of flow augmentation, which is quite different.

That's not what I'm requesting, said Yost – Idaho is not asking for any evaluation of flow augmentation. If there was a way for us to consider an alternative to review the biological benefits of 427 KAF of Snake River flow augmentation on fall chinook, said Yost, I would like to entertain that possibility. It seems to me that this is something that could be included in PATH's fall chinook analysis, he said.

In response to a question from Marmorek, Greg Graham said that the DPCG had discussed where flow augmentation could be expected to provide the greatest net benefit, and had decided that it was in the in-river migration alternative. It was agreed to evaluate in-river migration with increased flow augmentation, and without flow augmentation, to see whether there was any variation there, he said. If we did see a benefit from increased flow augmentation, there was agreement that we might want to plug that variable into A1, A2 and A2'. In other words, we left open some iterations that we could do in the future, Graham said. If it was decided that increased flow augmentation doesn't provide a significant benefit – and I don't think we're there yet – then we wouldn't do those other iterations, said Graham.

The only problem with that is that the sensitivity analyses we've done before show that flow augmentation actually has the most benefit in putting fish through Lower Granite pool to the transportation sites, said Geiselman – it isn't necessarily true that we'll see the most benefit in

the in-river survival analysis.

I think there is general agreement that the fall chinook analysis should be PATH's number one priority in FY'99, said Silverberg – what's number two, at least for the first half of 1999? Beyond the work on the Mid-Columbia stocks, which will be handled by the work-group and will require relatively little effort from PATH, what the prioritization question really boils down to is the amount of additional work you want us to do on spring/summer chinook vs. the amount of work you want us to do on experimental management, Marmorek said. After some minutes of further discussion, there was general agreement that another PATH/IT subgroup meeting is needed to discuss the prioritization issues raised at today's meeting in more detail, and to clarify PATH's secondary and tertiary work priorities for FY'99.

VIII. PATH Briefing on December 16.

The group spent a few minutes critiquing Marmorek's presentation at today's meeting, offering a few suggestions as to length, graphics and other content in preparation for the executive-level briefing on December 16.

IX. Approval of Minutes from Recent IT Meetings.

Copies of the minutes from the two most recent IT meetings have been distributed, said Brown; he asked that any comments on the minutes be submitted to John Palensky by Friday, December 18, after which these documents will be considered final.

X. Next IT Meeting Date and Agenda Items

The next meeting of the Implementation Team was set for Thursday, February 4, 1999, from 9 a.m. to 4 p.m., at the NMFS Portland Office. Meeting notes prepared by Jeff Kuechle, BPA contractor.